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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/769,835	01/24/2001	Michael Abbott	11859-004001	5516

24728 7590 10/14/2004

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EXAMINER
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GRAYSAY, TAMARA L

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 10/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/769,835

Applicant(s)

ABBOTT, MICHAEL

Examiner

Tamara L. Graysay

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____  | 6) <input type="checkbox"/> Other: ____                                     |

**DETAILED ACTION*****Drawings***

1. The drawings are objected to because the vertical line connecting step 306 and 314, depicted in the center of Fig.3, lacks an arrow at either end and is not described in the specification. It appears from the specification that the sequence of steps is 306 – 308 – 310 – 312 – 314. The vertical line connecting the two steps should be deleted.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

2. The disclosure is objected to because of the following informalities:
- a. Reference character 108 should be inserted at page 4, line 19, of the specification.

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b. The mathematical formula as presented on page 11 of the specification is in improper script type font. In accordance with 37 CFR 1.58(c), typewritten characters used in a mathematical formula must be chosen from a block (nonscript) type font or lettering style having capital letters which are at least 0.21 cm. (0.08 inch) high (e.g., elite type). A space at least 0.64 cm. (1/4 inch) high should be provided between complex formulae and tables and the text. Tables should have the lines and columns of data closely spaced to conserve space, consistent with a high degree of legibility.

Appropriate correction is required.

### ***Claim Objections***

3. Claims 1-21 are objected to because of the following informalities: the claim term "each" has been interpreted as "each action" at both occurrences at claim 1, line 4; at both occurrences at claim 8, line 4; and at both occurrences at claim 15, line 5. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 8-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test: (1) whether the invention is within the technological arts; and (2) whether the invention produces a useful, concrete, and tangible result.

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As to the first prong, for a claimed invention to be statutory the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts. In the present case, even though a practical application of recommending an action that will maximize payoffs for all players is recited in process claims 8-14, the claimed process lacks a tie to any technological art. The process claims do not recite any limitations that involve a technology, and the claimed process steps do not require use of any technology to implement the invention.

As to the second prong, for a claimed invention to be statutory the claimed invention must produce a useful, concrete, and tangible result. In the present case, the claimed invention produces (i.e., concrete) a recommended action (i.e. tangible) such that payoffs are maximized (i.e., useful) for all players.

In conclusion, process claims 8-14 meet the second prong of the two-prong test because they produce a useful, concrete, and tangible result, however, they do not meet the first prong because they are not within a technological art, as explained above. Therefore, process claims 8-14 are deemed to be directed to non-statutory subject matter.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6 and 8-13 are rejected under 35 U.S.C. 102(b) as being anticipated by

Swaminathan (article, Model supply chain dynamics: a multiagent approach).

a. Regarding claims 1 and 8, Swaminathan discloses a multiagent supply chain model having an agent (retailer agent, P.613-614) representing a player (retailer, P.614, L.5) having a goal (reduce turnaround time while keeping inventory under control, P.614, L.5-7). Each goal inherently has a corresponding payoff (e.g., increased revenue, reduced inventory storage costs, etc.). The agent makes decision(s) (for example - priorities P.614) in the supply chain and recommends an action based on historical behavior (reliability of the supplying agent, P.615, L.18-19) and commitments (performance measurements including service constraints, inventory control policies, P.614, L.7-10) of other players.

b. Regarding claims 2 and 9, the requesting agent is identified dependent upon specific set of goals (P.614, L.3-4).

c. Regarding claims 3 and 10, the requesting agent is the retailer agent and the customer agent is at least one of the “other agents” with which the retailer agent interacts (P.614, L.5).

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- d. Regarding claims 4 and 11, the means for generating a decision model that describes past behavior and means for selecting from the decision model past decisions is exemplified in the description of the set of control elements available to an agent (P.614,  $\Phi_i$ ). The control element of Swaminathan is used when a decision is to be made.
- e. Regarding claims 5 and 12, as mentioned with regard to claims 1 and 8 above, the agent makes decision(s) (for example - priorities P.614) in the supply chain and recommends an action based on historical behavior (reliability of the supplying agent, P.615, L.18-19) and commitments (performance measurements including service constraints, inventory control policies, P.614, L.7-10) of other players. The decision model inherently includes past decisions. For example, in order to determine the reliability of the supplying agent (as discussed at page 615, lines 18-19 of the reference) each competitor's past performance would be considered. Therefore, if the competitor agent were found unreliable in the past, the decision matrix would reflect the unreliability and it is unlikely that the competitor agent would be relied upon in the future. Moreover, the reference discusses alternative arrangements wherein the benefits for different entities result in benefit sharing, as well as cost negotiation (P.623, L.43-45 and 19-42).
- f. Regarding claims 6 and 13, the use of a cooperation index is inherent in the agent's consideration of any other agent's reliability because reliability is a type of cooperation.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7 and 14-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Swaminathan (article, Modeling supply chain dynamics: a multiagent approach).

a. Regarding claims 7 and 14, Swaminathan is silent as to the payoff value associated with the recommended action. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Swaminathan to include a high value payoff in order to provide maximum benefit to the supply chain's corresponding players.

b. Regarding claims 15-21, Swaminathan discloses the use of a computer program product (software) capable of performing the functions disclosed in the reference (P.617, L.37; P.624, L.11 to P.626, L.16) and as recited in claims 15-21.

i. Regarding claim 15, Swaminathan discloses a computer program product for a multiagent supply chain model that identifies an agent (retailer agent, P.613-614) representing a player (retailer, P.614, L.5) having a goal (reduce turnaround time while keeping inventory under control, P.614, L.5-7). Each goal inherently has a corresponding payoff (e.g., increased revenue, reduced inventory storage costs, etc.). The program is operable such that the agent makes decision(s) (for example - priorities P.614) in the supply chain and recommends an action based on historical behavior (reliability of the supplying agent, P.615, L.18-19) and commitments (performance measurements including service constraints, inventory control policies, P.614, L.7-10) of other players.



- ii. Regarding claim 16, the computer program product identifies the requesting agent as dependent upon specific set of goals (P.614, L.3-4).
- iii. Regarding claim 17, the computer program product identifies the requesting agent as the retailer agent and the customer agent as at least one of the "other agents" with which the retailer agent interacts (P.614, L.5).
- iv. Regarding claim 18, the computer program product generates a decision model that describes past behavior and means for selecting from the decision model past decisions is exemplified in the description of the set of control elements available to an agent (P.614,  $\Phi_i$ ). The control element of Swaminathan is used when a decision is to be made.
- v. Regarding claim 19, as mentioned with regard to claim 15, the computer program product agent makes decision(s) (for example - priorities P.614) in the supply chain and recommends an action based on historical behavior (reliability of the supplying agent, P.615, L.18-19) and commitments (performance measurements including service constraints, inventory control policies, P.614, L.7-10) of other players. The decision model inherently includes past decisions. For example, in order to determine the reliability of the supplying agent (as discussed at page 615, lines 18-19 of the reference) each competitor's past performance would be considered. Therefore, if the competitor agent were found unreliable in the past, the decision matrix would reflect the unreliability and it is unlikely that the competitor agent would be relied upon in the future. Moreover, the reference discusses alternative arrangements wherein the benefits for different

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entities result in benefit sharing, as well as cost negotiation (P.623, L.43-45 and 19-42).

vi. Regarding claim 20, a computer program product that uses a cooperation index is inherent in the agent's consideration of any other agent's reliability because reliability is a type of cooperation.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Yoder (article, Opportunity detector) discloses an enterprise commerce management system that utilizes decision models for recommending supply and marketing actions that maximize profits. The decision models include tables and sets of relationships among the players, agents, decisions, actions, etc.
- Flake (US-5832451) discloses a two-way communication system (17) between a customer and agent. A computer-based system (21) is used in the process of the agent recommending actions.
- Kephart (article, Dynamic pricing by software agents) discloses a system for improving profits by use of agent-based information economies that utilize learning, optimization, and dynamics.
- Business/Technical Editors (article, SynQuest announces supply chain software for manufacturers that integrates advanced planning and scheduling with execution) discloses supply chain management system that includes

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- Business/Technical Editors (article, SynQuest announces supply chain optimization series) discloses supply chain management system that optimizes financial performance and includes modeling for strategic, tactical, and operational planning.
- Business/Technology Editors (article, Moore selects SynQuest supply chain software to enhance decision-support and operational agility) discloses a supply chain management system that optimizes business performance including optimal allocation of customer orders and optimal decision-making software.
- article, IBM: IBM and SynQuest announce global strategic alliance to deliver supply chain management solutions ... discloses maximization of product throughput while simultaneously determining best financial result.
- Stein (article, SynQuest to debut supply-chain help) discloses decision-support capabilities for supply chain system.
- SynQuest website discloses consideration of the entire supply chain to maximize profitability.


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamara L. Graysay whose telephone number is (703) 305-1918.

The examiner can normally be reached on Monday - Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz, can be reached on (703) 305-9643. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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